

**ABSTRACT**

A valve stem installation system includes a robotic arm for moving a valve stem insertion device around the lip of wheel. The system also includes a pair of valve stem aperture sensors positioned on the robotic arm adjacent the valve stem insertion device and moveable around the lip of the wheel. The sensors can be positioned on opposite sides of the valve stem insertion device. When the first sensor locates the valve stem aperture, movement of the robotic arm can be slowed. When the second sensor locates the valve stem aperture, movement of the robotic arm can be stopped. The conveyor unit can include an identification station to sense the configuration of the wheel. A controller can select the appropriate valve stem to insert in the valve stem aperture in response to the sensed configuration of the wheel.